In re Chang

Appln. No. 09/837,217

Response of September 13, 2004

CURRENT LISTING OF PENDING CLAIMS

The pending claims are set forth below:

1. (Previously Amended) A pharmaceutical composition for application at a

biodegradable plate-containing site requiring new bone or cartilage formation in a subject,

comprising a plurality of bone marrow stromal cells (MSCs) and a pharmaceutically acceptable

polymer,

wherein the MSCs are isolated from the subject, are transduced in vitro after isolation

from the subject with a replication-deficient viral vector comprising a DNA sequence encoding

BMP-2 operably linked to a promoter, and are applied at the biodegradable plate-containing site.

2. (Original) The composition as recited in Claim 1 wherein the polymer is selected

from a group consisting of alginate and collagen.

3. (Original) The composition as recited in Claim 1 wherein the MSCs are present in

a concentration of about 50 x 10⁶ per ml of the polymer.

4. (Previously Amended) The composition as recited in Claim 1 wherein the

polymer is collagen type I.

5. (Previously Amended) A method of enhancing new bone or cartilage formation in

a subject, comprising:

a. obtaining a plurality of bone marrow stromal cells (MSCs) from the

subject;

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In re Chang Appln. No. 09/837,217 Response of September 13, 2004

- b. transducing the MSCs of step a) with a replication-deficient viral vector comprising a DNA sequence encoding BMP-2 operably linked to a promoter to generate BMP-2 protein producing MSCs;
- c. applying a biodegradable plate to a site requiring new bone or cartilage formation on the subject; and
- d. applying a composition comprising the BMP-2 protein producing MSCs and a pharmaceutically acceptable polymer to the site,

such that new bone or cartilage formation is enhanced.

- 6. (Previously Amended) The method as recited in Claim 5 wherein the replication-deficient viral vector is an adenovirus.
 - 7. (Cancelled)
- 8. (Previously Amended) The method as recited in Claim 5 wherein the protein producing MSCs are topically applied in a concentration of about 50 x 10⁶ per ml of a pharmaceutically acceptable polymer and produce an effective amount of the protein.
 - 9. (Cancelled)
 - 10. (Cancelled)
 - 11. (Previously Added) The composition of claim 1 wherein the composition is a gel.
 - 12. (Previously Added) The method of claim 5 wherein the composition is a gel.

In re Chang Appln. No. 09/837,217 Response of September 13, 2004

- 13. (Previously Added) The composition of claim 1 wherein the biodegradable plate comprises poly(lactic acid) (PLLA).
- 14. (Previously Added) The method of claim 5 wherein the biodegradable plate . comprises poly(lactic acid) (PLLA).